

WE CLAIM:

1. A pulse combustor, comprising:

a) two spaced apart outer plates, said outer plates
5 having flat outer regions, conical regions inside
of the flat regions and central hubs, wherein the
volume between conical regions of said plates
defines a combustion chamber;

b) a plurality of intermediate plates located between
10 said outer plates, said plurality of intermediate
plates being spaced apart to form tailpipe regions
therebetween and between said outer plates and
adjacent ones of said intermediate plates;

c) a burner coupled to one of said hubs, said burner
15 operative to ignite a fuel/air mixture in said
combustion chamber,

wherein said outer and intermediate plates have spiral
coolant passageways therein for conducting cooling
20 fluid to cool expanding gases traveling between said
plates through said tailpipe regions.

2. A pulse combustor according to claim 1, wherein said
intermediate plates are spaced to provide equal resistance
25 to gas flow between each set of adjacent plates.

3. A pulse combustor according to claim 1, wherein said
plates are circular.

AMENDED CLAIMS

[received by the International Bureau on 24 January 2005 (24.01.05);
original claims 5 and 6 amended; claims 10 and 11 cancelled (2 pages)]

4. A pulse combustor according to claim 1, wherein each of said plates is made of spiral wound hollow stainless steel tubing.
- 5 5. A pulse combustor according to claim 4, wherein said outer plates each have a conical region proximates said combustion chamber, which conical region extends outwardly.
6. A pulse combustor according to claim 4, including
10 spacers between each plate to set the separation between adjacent plates.
7. A pulse combustor according to claim 6, wherein said burner assembly further includes a parabolic cone mounted
15 inside said elongated hollow tube with a circular end of said parabolic cone aligned with one end of said hollow elongated tube.
8. A pulse combustor according to claim 1, including an
20 inlet to said coolant passageway at a periphery thereof and an outlet from said coolant passageway proximate a center of said so that coolant flow is counter to ignited gas flow through said tailpipe regions.
- 25 9. A pulse combustor according to claim 6, wherein said hollow elongated tube is cylindrical and has a plurality of radially spaced apart elongated slots extending along a length of its cylindrical surface and including a plurality of elongated nozzle assemblies having nozzle openings spaced
30 along its length, said nozzle assemblies having a plenum

accessing said nozzle openings and each nozzle assembly
affixed to an outer surface of said cylinder over an
associated slot.

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